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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,924	10/17/2003	John Galbraith	S-99,917	3788
35068	7590	01/13/2006	EXAMINER	
UNIVERSITY OF CALIFORNIA LOS ALAMOS NATIONAL LABORATORY P.O. BOX 1663, MS A187 LOS ALAMOS, NM 87545			MARC, MCDIEUNEL	
		ART UNIT	PAPER NUMBER	
		3661		

DATE MAILED: 01/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/689,924	GALIBRAITH, JOHN	
	<b>Examiner</b>	<b>Art Unit</b>	
	McDieunel Marc	3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 02 November 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1 and 3 is/are rejected.
- 7) Claim(s) 2 and 4 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 17 October 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

1. Claims 1-4 are pending for examination.

2. The objection to the abstract is withdrawn.

The rejection to claims 1 and 3 under 35 U.S.C. 102(b) as being anticipated by **Yagi et al. (*Map-Based Navigation for a Mobile Robot with Omnidirectional Image Sensor COPIS, 1995*)** is withdrawn.

3. Applicant's arguments with respect to claims 1 and 3 have been considered but are moot in view of the new ground(s) of rejection.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yagi et al. (*Map-Based Navigation for a Mobile Robot with Omnidirectional Image Sensor COPIS, 1995*)** in view of **Wilson et al. (Decoding Population Codes, 2000)**

As per claims 1 and 3, Yagi et al. teaches substantially “ Map-Based Navigation for a Mobile Robot with Omnidirectional Image Sensor COPIS” a method for avoiding objects along a path programmed into a robot (see fig. 1) comprising the following steps

in the order named: (a) establishing a field of view for an electronic imager of said robot along said path (see abstract, the TV camera being taken as the imager), (b) obtaining object location information in said field of view (see fig. 1), control signal from said object location information (see page 642, col. 1, section c., wherein the real-time control being considered as coded control), and (d) transmitting said control signal to said robot, thereby allowing said robot to avoid said object (see page 642, cols. 1-2, section 1)). With respect to claim 3, a method for deriving a distance from an object to an electronic imager (see fig. 1) comprising the following steps in the order named: (a) establishing a field of view for said electronic imager (see abstract, the TV camera being taken as the imager (see fig. 1as described above), (b) obtaining object location information in said field of view (see fig. 1), (c) deriving said distance from said object to said electronic imager by processing set of algorithms (see page 638, col. 2, first paragraph). Yagi et al. does not specifically teach deriving a population coded.

Wilson et al. teaches decoding population codes that includes deriving a population coded (see abstract and page 138, section 2.2).

It would have been obvious to a person of ordinary skill in the art to modify the teaching of Yagi et al. with the population codes of Wilson et al., because this modification would have increased Yagi' s et al. teaching so that neurophysiological and population of neural activities could be introduced to Yagi' s et al. teaching, thereby improving the orientation and the accuracy of the vision-based obstacle avoidance method.

***Allowable Subject Matter***

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6. Claims 2 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fail to teach or fairly suggest with respect to claim 2, (b) processing a population coded velocity algorithm that recombines said spatial and temporal frequency components corresponding to said object and provides a velocity output, thereby identifying how said object is moving in said field of view, (c) and (e) processing a population coded navigation algorithm where said strategic control vector, said tactical control vector, and said turning information output are used to derive said population coded control signal. With respect to claim 4, (b) processing a population coded velocity algorithm that recombines said spatial and temporal frequency components corresponding to said object and provides a velocity output, thereby identifying how said object is moving in said field of view, in combination with the other elements of the claimed invention.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to McDieunel Marc whose telephone number is (571) 272-6964. The examiner can normally be reached on 6:30-5:00 Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

m. marc  
McDieunel Marc  
Examiner  
Art Unit 3661

Thursday, December 29, 2005

MM/

*Thomas G. Black*  
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